

DETERMINANTS OF BANK'S PROFITABILITY IN PAKISTAN: A LATEST PANEL DATA EVIDENCE

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Abstract

This paper investigates how bank-specific, industry-specific and macroeconomic factors affect the profitability of banking sector of Pakistan. We applied Pooled Ordinary Least Square (POLS) regression technique on financial data of all Pakistani banks over the period 2006 to 2013. In this way this paper fills the gap in Pakistani banking literature by providing current determinants of profitability of the sector by using latest available data. All the independent variables proved according to the expected signs and show highly significant relationship with the profitability. The empirical results show that profitability of Pakistani banking sector is negatively affected by funding Cost, liquidity, non-performing loans, and administrative expensive and positively affected by non-fund based services, capital adequacy, banking sector development and economic growth. Our study has important implications for the regulator and management of the banks for developing future business strategies.

Keywords: Pakistan, Profitability, Funding Cost, Non-fund based, Banks

INTRODUCTION

Like most of the capitalist economies in present world, banking sector is the backbone of the financial system of Pakistan. A driving force for the real sectors of the economy and an engine for economic growth. During the past two decades Pakistani banking sector has witnessed a radical change from a predominantly government owned and strictly regulated to a progressive, dynamic and competitive banking sector. Now Pakistani banking sector comprises of public sector banks, private commercial banks, foreign banks development finance institutions, and Islamic banks. This progress is a result of; gradual privatization of the state owned banks in early 1990s, entry of foreign banks, local private sector commercial banks and Islamic banks in the banking sector and step wise implementation of prudential regulations and capital adequacy requirements and increased supervision by The State Bank of Pakistan (SBP, central bank of the country) in line with the international standards. All these factors have increased competition in the Pakistani banking sector. This Competition is a continuous driver for the participants in the industry to strive for best practices and up to date technology to improve their efficiency and to gain customer satisfaction. All these factors are being translated in to increased business and higher profitability.

According to Dr. Shamshad Akhtar Ex-governor of The State Bank of Pakistan, Pakistani Banking sector was experiencing unprecedented growth from 2001 to 2005. Assets of the banking Sector of Pakistan increased about three times during the period 2000 to 2005 by the end of 2005 total assets were reaching Rs.4 trillion, banking sectors assets to GDP ratio

increased to 55.6 % in 2005 as compared to 47.2 % in 2000. Return on assets before tax was considerably improved from 0.2% to 2.6% in the period of 5 years (Akhtar , 2006).

To have a current overview of the sector, according to The State Bank of Pakistan report (State Bank of Pakistan, 2009-2013) total assets of the banking sector of Pakistan expanded in Year 2013. Total assets of the banking sector grew from Rs.9.9 trillion in 2012 to Rs.10.7 trillion (about USD 107 billion) in 2013 showing an increase of 7.8 percent over the last year. This shows the continuous growth and future prospect of the banking industry in Pakistan. Because still there is a large portion of the society which is not using the banking services.

In a developing country like Pakistan a well-functioning broad based and stable financial system is a pre-requisite to support the much needed economic development and growth. Owing to its vital role in the economy it is important to regularly measure its performance. In order to measure the performance of banking sector its profitability is measured, as it is the single most important indicator of the financial health and sustainability in long run. A profitable banking sector is more likely to withstand a financial and economic distress like recent global financial crises of 2008.

Because of the under developed capital and bond markets, importance of the banking sector in the developing countries is twofold. As Banks are the only substantial source to induce savings and thereby providing the much needed financial assistance to the real sector of the economy for development and economic growth. This development and economic growth caused by the financial assistance from the banking sector is the only hope and sustainable solution to provide relief to and upgrade the living standards of the large poor population of the developing countries. Owing to their importance it is essential to evaluate health and performance of banking sector of developing countries in order to take necessary corrective measures on part of the both banks and regulators.

Although numerous studies are available on the performance and profitability of banking sector around the world especially in the developed countries and also on some developing countries but no sufficient literature is available on Pakistan banking sector. Some attempts have been made to measure the performance of banking sector of Pakistan after the liberalization of the sector starting in the early 1990's. A few studies are also available on the factors affecting the profitability of the Pakistani banking sector from 2001-2010 in different time slots taking small periods and considering different sample sizes and variables.

But to the best of our knowledge no research is available on Pakistani banking sector profitability which has used up to date financial data of all Pakistani scheduled banks till December 2013 which can provide some insights in to the recent health profitability and performance of Pakistani banking sector.

In this paper we have undertaken a comprehensive and up to date review of the Pakistani banking sector profitability by using latest available data till 2013 of all the scheduled banks of Pakistan with 100% sample size. We have tried to determine the latest internal external and industry specific factors affecting the profitability of all scheduled banks of Pakistan by using financial data from 2006-2013, and an extensive set of variables which also include some variables whose effect has never been studied in Pakistani banking literature like funding cost and non-fund based services. For determining these factors affecting profitability we used Pooled Ordinary Least Squares (POLS) regression method which is widely used in the banking literature to determine the factors effecting banks profitability.

In the next section some literature review related to the banking profitability will be provided, leading to hypotheses development. In third section detail of data and methodology will be discussed. In fourth section results and discussion will be provided and in section five conclusion of the study will be provided, at the end references of the related literature will be given.

LITERATURE REVIEW

Here, we will review the available literature on the banking sector profitability and its determinants. First in different countries of the world then in Pakistan. In order to develop an understanding that empirically there exist a relationship between banking sector profitability and internal, external and industry specific variables. Then we will develop a theoretical frame work which we will adopt to investigate the current determinants of Pakistani banking sector profitability.

Fadzlan, 2009 while investigating Chinese banking sector profitability from 2000 to 2007 using linear regression model concluded that bank size, credit risk, and capital adequacy have a positive impact on Chinese banks profitability, while overhead costs, and liquidity, and have negative impact. Whereas macroeconomic factors of inflation and economic growth have a positive effect on banks profitability.

Andreas & Gabrielle, 2010 have examined how bank-specific, industry-specific and macro-economic factors affect the profitability of commercial banks in Switzerland by taking a sample of 372 banks from 1999 to 2009 by using the System GMM Estimator method. They conclude bank profitability is mainly explained by operational efficiency, the growth of total loans, funding costs and the business model. An above average loan volume growth affects bank profitability positively; higher funding costs result in a lower profitability. Banks that are heavily dependent on interest income are less profitable than banks whose income is more diversified. The results outlined in this paper provide some evidence that the financial crisis did

indeed have a significant impact on the Swiss banking industry and on bank profitability in particular.

Deger & Adem, 2011 studied the internal and external determinants of the bank's profitability in Turkey from 2002 to 2010. They used return on assets (ROA) and return on equity (ROE) to measure bank profitability using balanced panel data. They come to a conclusion that asset size and non-interest income cast a direct and significant effect on bank profitability. While, size of advances and non-performing loans have a negative and significant impact. With respect to macroeconomic variables, real interest rate was the only one that showed a positive effect on the profitability of banks.

Zhang & Daly, 2013 while studying the impact of bank specific and macroeconomic factors on China's banking sector performance from 2004-2010 concluded that that banks with lower credit risk, which are well capitalized tend to be more profitable while higher expenses have a negative impact on bank performance. The macroeconomic variables suggest that China's banking sector grew along with GDP growth and greater economic integration via increased trade and capital flows has resulted in to increase in bank profitability.

Antonio, 2013 empirically investigated the factors that contribute to the profitability of banks in Spain from 1999 to 2009. He used Generalized Method of Moments (GMM) estimator, also called the System-GMM estimator designed for dynamic panel models by Arellano and Bover (1995) and Blundell and Bond (1998) and came to conclusion that the high bank profitability during above period was due to large proportion of loans in total assets, high customer deposits relative to total assets, high efficiency and low doubtful assets. He also observed that, higher capital ratios also add in to the bank's profits, but only if return on assets (ROA) is used as measure of profitability.

Jamil & Abdullah, 2014 investigated the determinants of profitability of Jordanian bank internal factors namely, capital adequacy, the cost to income ratio, liquidity; and external factors namely, the annual inflation rate, the real GDP growth, total assets to GDP (ASSGDP), stock market capitalization to total assets, and the ratio of stock market capitalization to GDP. Using Ordinary Least Squares (OLS) Regression they concluded that internal factors have a significant impact but not capital adequacy and liquidity ratio for the transformed model, while size is insignificant for the transformed and untransformed models. With respect to external factors, inflation, total assets of the deposit money banks divided by the GDP, and stock market capitalization to total assets are significantly associated with transformed and untransformed models. Nevertheless, the study finds a significant impact between internal and external factors in the third model. Gul, Irshad, et al, 2011 Using POLS method on data from 2005-2009 of 15

Pakistani banks concluded that internal and external factors have a strong impact on profitability of Pakistani commercial banks.

Ali, Akhtar, et al 2011 using correlation descriptive, and regression analysis to investigate the impact of bank specific and macroeconomic factors on the banking sector of Pakistan from 2006-2009. They found that asset management and GDP growth have a positive effect on Pakistan banking sector while credit risk and capital adequacy has a negative effect.

Javaid, Anwar, et al 2011 determined only bank specific factors of 10 Pakistani banks profitability from 2004-2008 and concluded that deposits and equity have a positive and significant impact on profitability and bank size always do not increase profitability due to diseconomies of scale while the impact of loans found insignificant.

Ahmed & Nafees, 2012 after applying panel data regression of random effects on data of sixteen Pakistani commercial banks from 2001-2010 came to a conclusion that cost to income ratio, loan loss reserves to gross loans ratio and capital have a negative and significant effect on ROA while liquidity has no significant impact on profitability.

There is a gap in Pakistani banking sector profitability literature ,no one till date have investigated the effect of these two variable namely funding cost and non-fund based services on profitability. To bridge this gap we are first to check this relationship in context of Pakistan. As mentioned above first Andreas & Gabrielle, 2010 investigated these two variables in context of Switzerland. Secondly there is no study to the best of our knowledge which has used latest financial data of all Pakistani banks till 2013 to provide up to date evidence on factors effecting profitability of Pakistani banking sector.

Hypotheses Development

Here, we are providing discussion of the independent variables and develop their hypotheses which will be tested empirically using the appropriate technique.

Funding Cost

Cost of funding is a crucial profitability determinant of today's competitive banking sector of any country. Despite its pivotal importance, to the best of our knowledge no study on Pakistan banking sector has investigated the impact of funding cost on the profitability of Pakistani banking sector. Theoretically speaking as the cost of funding will increase the gross margin and hence the profitability of the bank will decrease. As expected by Andreas & Gabrielle, 2010 we will empirically investigate whether there is a negative relationship in funding cost and the Pakistani banking sector profitability.

H1: Funding cost has a negative relation with the profitability of banking sector of Pakistan.

Liquidity

Although liquidity is of vital importance for the survival of the banks but holding more liquid assets instead of increasing the loans portfolio and investments will decrease the profitability of a bank. So in line with the findings of the Molyneux and Thornton 1992 we will expect a negative relation between the liquidity and profitability in the context of Pakistani banks.

H2: Liquidity has a negative relation with the profitability of banking sector of Pakistan.

Credit Risk

Asset quality is one of the most important indicators of the financial health of the banking sector and is closely related to the profitability. Credit Risk indicated by ratio of non-performing loans (NPLs) to gross advances is negatively related to profitability. NPLs have a double negative effect on the profitability of the bank, first NPLs stop earning interest and later provisioning against NPLs is reflected in the income statement which affects the profitability negatively. So we will empirically test the below hypotheses,

H3: NPLs to gross advances ratio of a bank has a negative relationship with its profitability.

Administrative Expenses

As measured by FADZLAN, 2009 and Zhang & Daly, 2013 for Chinese banks. We will investigate the effect of administrative expenses on the Pakistani banks profitability and expect a negative relation thereof. As theoretically with increasing expenses the profitability will fall.

H 4: Administrative expenses have a negative relation with the profitability of banking sector of Pakistan.

Non Fund Based Services

With the passage of time and with increased competition banks started providing a variety of non-financial services to their customers. A few of them may be listed as issuing documentary credits, variety of Bank Guarantees, handling imports and export payments, providing safe deposit lockers and so on. These services today form a sizable portion of their earnings. We use non-interest income as a proxy for the non-fund based services provided by the banks and expect their positive relation with the bank profitability as expected by Deger & Adem, 2011 and Andreas & Gabrielle, 2010 and form the hypotheses as under:

H 5: Non-fund based services have a positive relation with the profitability of banking sector of Pakistan.

Capital Adequacy

If more assets of the bank are created with the capital provided by the owners of the bank it will decrease the interest expenses and will result in to increased profitability (Molyneux, 1993). According to (Fadzlan, 2009; Antonio, 2013 and Deger & Adem, 2011) capital adequacy is more important for financial institutions of developing economies, because it provides more strength to survive in the financial crises and increased safety for depositors in difficult macroeconomic conditions. Therefore, we expect the variable to exhibit a positive relationship with Pakistan banks' profitability and formulate the hypotheses as under.

H6: Capital adequacy has a positive relation with the profitability of banking sector of Pakistan.

Banking Sector Development

Raza, Jawaid, & Shafqat, 2013 and Jamil & Abdullah, 2014 found a positive relation between the banking sector development and the profitability of banks. We will also investigate the effect of banking sector development measured by log of total assets to GDP on the profitability of Pakistan Banking Sector. As the share of banking industry in GDP will increase, with the increasing total assets of the industry we will expect a positive relationship and will form our Hypotheses as under.

H7: Banking sector development has a positive relation with the profitability of banking sector of Pakistan.

Economic Growth

With the development of the economy there will be more and more demand for financial and non-financial services provided by the banking sector which will result in a more growing, stable and profitable banking sector. As expected by Ali, Akhtar, & Ahmed, 2011 and Zhang & Daly, 2013 we develop and empirically test our hypotheses in anticipation that Pakistan banking sector profitability has increased with the economic growth in the country.

H8: Economic Development has a positive relation with the profitability of banking sector of Pakistan.

METHODOLOGY

The Data

Data used in our study is the panel data collected from secondary sources available in the form of SBP reports like , Financial Statement Analysis of Financial Sector 2006-2007, 2008, 2009-2013 published by Statistics and Data warehouse Department of State Bank of Pakistan (SBP) and annual financial reports of individual banks. We will take the annual financial data of all

Pakistani banks (working by the end of 2013) for eight years from 2006-2013. We have taken total sample by including all the scheduled banks in Pakistan which will provide exact and generalizable results to the whole of the population. In this way we will rule out any possibility of sampling errors. Only two banks Sindh Bank and industrial and commercial bank of china are excluded from the sample because they were incorporated in Pakistan in 2011. In the appendix I there is a list of all the banks working in Pakistan at the end of 2013 with division in to sub sectors

Research Approach

Return on Assets (ROA) as measured by net profit / total assets is taken as dependent variable as it is evident from literature that it is the single best indicator of the performance and profitability of banks which shows how efficiently the banks management is utilizing its assets to earn profits. Ramlall, 2009; Koasmidou, 2008; Sufian & Habibullah, 2009; Sayilgan & Yildirim, 2009. An extensive set of independent variables is taken to investigate their effect on the dependent variable and a set of eight variables which forms the best model is chosen. The variables which are used, their formulas, notation and expected signs are given in the table 1.

Table 1. Proposed Dependent and Independent Variables

Specification	Variable	Measure By	Notation	Expected Sign
Dependent Variable	Return on Assets	Net Profit/Total Assets	ROA	N/A
Independent Variables				
Bank-Specific Indicators	Funding Cost	Interest Expenses /Total Deposits +Borrowing	FC	-
	Liquidity	Liquid Assets/Total Assets	LIQ	-
	Credit Risk	Non- Performing Loan / Gross Advances	NPL	-
	Admin. Expenses	Administrative Expense / Total Assets	ADETA	-
	Non fund based services	Non-Interest Income / Total Income	NII	+
	Capital Adequacy	Shareholders' Equity / Total Assets	CA	+
Industry Specific Indicator	Banking Sector Development	Log of Total Assets / Log of GDP	LoAGDP	+
Macroeconomic Indicator	Economic Growth	Log of GDP	GDP	+

Proposed Model for Determinants of Profitability

Some suitable specification tests are applied to check whether the assumptions of Multi-collinearity, Autocorrelation and Heteroskedasticity for using POLS technique are satisfied by our model and found no such problem in our data set. As our data set fulfills all the assumptions of the linear regression. So we have used Pooled Ordinary Least Squares (POLS) regression model to empirically check the Hypotheses of internal, external and industry specific determinants of profitability of Pakistani Banking sector. Statistical softwares like Eviews and SPSS are used to perform different statistical analysis to get empirical support for our hypotheses

The following linear regression equation is used to determine the effect of independent variables on dependent variable (ROA) on left hand side of the equation.

$$ROA_{it} = \beta_0 + \beta_1 FC_{it} + \beta_2 LIQ_{it} + \beta_3 NPL_{it} + \beta_4 ADETA_{it} + \beta_5 NII_{it} + \beta_6 CA_{it} + \beta_7 LOAGDP_{it} + \beta_8 GDP_{it} + \varepsilon_{it}$$

Where,

ROA_{it} Represents the dependent variable Return on Assets of bank 'i' at time 't'

β_0 Represents constant

$\beta_1 FC_{it}$ Represents total interest expenses over total deposits + borrowing of bank 'i' at time 't'

$\beta_2 LIQ_{it}$ Represents Liquid Assets/Total Assets of bank 'i' at time 't'

$\beta_3 NPL_{it}$ Represents Non- Performing Loan / Gross Advances of bank 'i' at time 't'

$\beta_4 ADETA_{it}$ Represents Administrative Expense / Total Assets of bank 'i' at time 't'

$\beta_5 NII_{it}$ Represents Non-Interest Income / Total Income of bank 'i' at time 't'

$\beta_6 CA_{it}$ Represents Shareholders' Equity / Total Assets of bank 'i' at time 't'

$\beta_7 LOAGDP_{it}$ Represents Log of Total Assets / Log of GDP bank 'i' at time 't'

$\beta_8 GDP_{it}$ Represents Log of GDP for bank 'i' at time 't'

$i=1-38$ banks,

$t = 2006-2013$,

ε_{it} = error term

EMPIRICAL RESULTS AND DISCUSSION

Descriptive statistics of the data set used are given in table 2 which include mean, median, maximum, minimum and standard deviation values.

Table 2: Descriptive Statistics

	ROA	FC	LIQ	NPL	ADETA	NII	CA	LOAGDP	GDP
Mean	0.0014	0.0612	0.1371	0.1405	0.0337	0.1532	0.1398	2.0533	8.6793
Median	0.0100	0.0600	0.0900	0.1000	0.0300	0.1400	0.1000	2.1150	8.6600
Maximum	0.0400	0.4200	0.9900	1.0000	0.1800	0.6300	0.7900	2.4800	8.8500
Minimum	-0.2600	0.0000	0.0300	0.0000	0.0000	0.0100	-0.0200	0.0000	8.4900
Std. Dev.	0.0262	0.0335	0.1444	0.1498	0.0198	0.0918	0.1322	0.4035	0.1238

The mean value of the liquidity (LIQ) 13.71% and the capital adequacy (CA) is about 14% which shows that on average Pakistani banking sector is sufficiently liquid and stable due to adequate capital with respect to total assets. The mean funding cost is 6.1% which is quite reasonably low because a large portion of the commercial banks deposits are current and interest free deposits. The Mean NPLs are a little higher due to the large non-performing loans in a few banks. The standard deviations for all the variables are low which shows the consistency of the data set and proximity of the data to mean values. The highest standard deviation is of LOAGDP which is because of the difference in the size of banks included in the sample.

Table 3 Correlation Metrics (Sample: 2006-2013)

	ROA	FC	LIQ	NPL	ADETA	NII	CA	LOAGDP	GDP
ROA	1.0000	-0.4175	-0.2045	-0.4444	-0.5590	0.2282	-0.1029	0.2379	0.0417
FC	-0.4175	1.0000	0.3299	0.3070	0.1957	-0.1794	0.3372	-0.3533	0.0244
LIQ	-0.2045	0.3299	1.0000	0.1005	-0.0340	0.2314	0.6633	-0.3148	-0.0945
NPL	-0.4444	0.3070	0.1005	1.0000	0.4377	-0.0329	0.2351	-0.0843	0.1843
ADETA	-0.5590	0.1957	-0.0340	0.4377	1.0000	-0.1361	0.1106	-0.0771	0.0683
NII	0.2282	-0.1794	0.2314	-0.0329	-0.1361	1.0000	0.1260	0.0331	-0.1552
CA	-0.1029	0.3372	0.6633	0.2351	0.1106	0.1260	1.0000	-0.5331	-0.0483
LOAGDP	0.2379	-0.3533	-0.3148	-0.0843	-0.0771	0.0331	-0.5331	1.0000	0.1837
GDP	0.0417	0.0244	-0.0945	0.1843	0.0683	-0.1552	-0.0483	0.1837	1.0000

Correlation among the dependent and independent variables is given in table 3 which shows the lower correlation values among the variables. We also performed the VIF test in order to satisfy the condition of the no Multi-co-linearity and found that there is no problem of multi-co-linearity in our data set. After applying specification tests our data set also satisfy the condition of no Autocorrelation and no heteroscedasticity.

Results of the POLS regression model are produced in table 4 below. Adjusted R-square is 53.8% which means that 53.8% variation in the dependent variable is explained by the independent variables present in our model. F-statistic is 37.86 and is highly significant which shows that our model is valid, relevant and fit for the given study.

Table 4 POLS regression model testing

Dependent Variable: ROA, Method: Panel Least Squares

Sample: 2006-2013, Periods included: 8

Total panel (unbalanced) observations: 254

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.1806	0.0822	-2.1946	0.0291
FC	-0.1312	0.0399	-3.2820	0.0012
LIQ	-0.0673	0.0110	-6.0813	0.0000
NPL	-0.0441	0.0089	-4.9462	0.0000
ADETA	-0.5836	0.0641	-9.1038	0.0000
NII	0.0500	0.0133	3.7624	0.0002
CA	0.0779	0.0131	5.9153	0.0000
LOAGDP	0.0125	0.0034	3.5898	0.0004
GDP	0.0208	0.0095	2.1751	0.0306
R-squared	0.5528	Mean dependent var	0.0014	
Adjusted R-squared	0.5382	S.D. dependent var	0.0262	
S.E. of regression	0.0178	Akaike info criterion	-5.1765	
Sum squared resid	0.0782	Schwarz criterion	-5.0512	
Log likelihood	666.4275	Hannan-Quinn criter.	-5.1261	
F-statistic	37.860	Durbin-Watson stat	1.5416	
Prob.(F-statistic)	0.0000			

All the independent variables proved according to the expected signs and highly significant at 0.01% significance level except GDP which is significant at 0.05%. Four independent variables FC, LIQ, NPL, and ADETA show negative relation with the profitability indicator ROA and remaining four independent variables NII, CA, LOAGDP and GDP show positive relation with the profitability of the Pakistani Banking Sector.

If we look in detail on the POLS results according to our expectation the coefficient of funding cost shows a negative relation with profitability of the Pakistani banking sector as measured by return on assets (ROA). This means that if the funding cost will increase the profitability of the banks will decrease. This result is also supported by theory and is consistent with the result of (Andreas & Gabrielle, 2010). Liquidity as measured by liquid assets /total assets also shows negative relation with ROA which means if more of the total assets will be lying idle in shape of cash and will not be utilized in the loans and other earning assets the profitability of the banks will go down this result is also supported in literature by Molyneux and Thornton (1992) and fadzlan (2009).

Credit Risk as measured by non-performing loans to gross advances (NPL) has also shown negative and highly significant sign as proposed in our hypotheses implying that with increasing bad debts the profitability of the banks will decrease. As bad debts has two fold effect on the profitability; first the interest income being received from the loans is suspended and the provision for the bad debts is charged in the income statement which further reduces the net profit. This result is widely supported in the banking literature (Ali, Akhtar, & Ahmed, 2011; Antonio, 2013; Al Karim & Alam, 2013; Deger & Adem, 2011; Ramlall, 2009; Vong, 2005; Miller & Noulas, 1997; Sufian & Habibullah, 2009).

Cost efficiency as measured by administrative expenses / total assets also has negative and highly significant relation with ROA which implies with increased administrative expenses the profitability of the banks included in the study will decline and vice versa this result is supported by (FADZLAN, 2009. Zhang & Daly, 2013).

Coming to the independent variables which are positively related to the ROA. Non fund based facilities represented by non-interest income NII shows positive and significant relation with the profitability of Pakistani Banks. With the evolution of the banking industry and increasing competition in order to meet the demands of their customer, banks have started providing a variety of nonfinancial and non-fund based services like issuing documentary credits, letter of credits, providing financial consultancy to their clients, selling insurance and so on. This non-interest income now forms a sizable portion of their income over and above the conventional interest base income. Our result is supported by (Deger & Adem, 2011) and (Andreas & Gabrielle, 2010). Capital Adequacy (CA) as expected in our hypotheses shows a positive and highly significant relation with ROA. This is also widely supported fact in the banking profitability literature that better capitalized banks are more stable, profitable and can withstand financial distress and losses and still can survive (FADZLAN, 2009. Antonio, 2013. Panayiotis, Sophocles & Matthaios, 2008; Deger & Adem, 2011; Zhang & Daly, 2013).

Banking sector development which is an industry specific indicator measured by Log of Assets over log of GDP is also positive and significantly related to the ROA as found by (Raza, Jawaid, & Shafqat, 2013) and (Jamil & Abdullah, 2014) which means that with the overall development of the banking industry and size of the banks as compared to total GDP of the country the profitability of the banking sector will improve.

According to our expectation the macro economic indicator as measured by log of GDP has also shown positive and significant relation with the profitability of the Pakistani banking sector as measured by return on assets. Which means that in the sample period Pakistani banking sector profitability has increased with the overall economic growth of the country as

represented by GDP same results are obtained by (Antonio , 2013) in Spain and (Zhang & Daly, 2013) in Chinese banking sector.

CONCLUSION

This paper has investigated how bank-specific, industry-specific and macroeconomic factors have affected the profitability of banking sector of Pakistan. The empirical results obtained by applying Pooled Ordinary Least Squares (POLS) technique on panel data of all Pakistani scheduled banks over the period 2006 to 2013, show that profitability of Pakistani banking sector is negatively affected by Funding Cost (FC), Liquidity (LIQ), Non- performing Loans (NPL) and Administrative Expensive (ADETA),and Positively affected by Non-fund based services (NII) , Capital Adequacy (CA) Banking Sector Development (LOAGDP) and Economic Growth (GDP).

Our study provide an up to date evidence on the factors affecting the profitability of Pakistani banking Sector by using latest available annual financial data till 2013. Our results have important implications for the banking sector of Pakistan. These results suggest to the banks management that in order to be more profitable they must decrease their funding cost by increasing low cost deposits, keep their liquid assets at an adequate level and use rest of their funds in productive assets in an efficient manner. Try to decrease their level of non- performing loans by increased vigilance at the time of sanctioning loans and improved monitoring and risk management techniques. Try to decrease their administrative expenses by cultivating efficiency in their organizations by creating SOPs, training human resources and adopting latest technology. They must keep them better capitalized in order to survive any local or international financial distress and diversify their income sources by engaging in to nontraditional services. They should try to develop banking sector as a whole by providing value added services to their clients and by adopting best practices. The banking sector should contribute to the economy by providing loans for productive ventures which will boost the whole economy and will provide them more chances to flourish in an expanding economy.

The limitation of the current study is that it has not undertaken in depth analysis of performance of different banking subsectors like public sector banks, private commercial banks, foreign banks and specialized banks. As these subsectors may have different dynamics of the determinants of profitability. There is scope for further research in investigating the performance and comparison of sub-sectors in banking industry of Pakistan by using latest available data in order to obtain more precise policy recommendations for different sub-sectors in the country.

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APPENDIX I: Pakistan Banking Sector

Sr.#	Private Sector Banks	Sr.#	Public Sector Banks
	Domestic Commercial Banks	1	First Women Bank Ltd.
1	Allied Bank Ltd.	2	National Bank of Pakistan
2	Askari Bank Ltd.	3	Sindh Bank Ltd.

3	Bank Al-Habib Ltd.	4	The Bank of Khyber
4	Bank Alfalah Ltd.	5	The Bank of Punjab
5	Faysal Bank Ltd.		Specialized Banks
6	Habib Bank Ltd.	1	Industrial Development Bank Ltd.
7	Habib Metropolitan Bank Ltd.	2	SME Bank Ltd.
8	JS Bank Ltd. 48	3	The Punjab Provincial Co-op. Bank Ltd.
9	KASB Bank Ltd.	4	4 Zarai Taraqati Bank Ltd. (ZTBL)
10	MCB Bank Ltd		Foreign Banks
11	NIB Bank Ltd	1	Barclays Bank PLC
12	Samba Bank Ltd.	2	Citi Bank N.A.
13	Silkbank Limited	3	Deutsche Bank AG
14	Soneri Bank Ltd.	4	HSBC Bank Middle East Ltd.
15	Summit Bank Ltd.	5	HSBC Bank Oman S.A.O.G.
16	Standard Chartered Bank (Pakistan) Ltd.	6	Industrial & Commercial Bank of China Ltd.
17	United Bank Ltd.	7	The Bank of Tokyo-Mitsubishi-UFJ. Ltd.
18	Al-baraka Bank (Pakistan) Ltd.		Total Banks 38
19	Bankislami Pakistan Ltd.		
20	Burj Bank Ltd.		
21	Dubai Islami Bank Pakistan Ltd.		
22	Meezan Bank Ltd.		